



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/577,616	05/25/2000	Klemens Sensen	P65350US0	6527

136 7590 12/12/2002

JACOBSON HOLMAN PLLC  
400 SEVENTH STREET N.W.  
SUITE 600  
WASHINGTON, DC 20004

EXAMINER

LEYSON, JOSEPH S

ART UNIT	PAPER NUMBER
----------	--------------

1722

DATE MAILED: 12/12/2002

18

Please find below and/or attached an Office communication concerning this application or proceeding.

PL 18

<b>Office Action Summary</b>	Application No. 09/577,616	Applicant(s) SENSEN ET AL.	
	Examiner Joseph Leyson	Art Unit 1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 October 2002.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 23 October 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

Art Unit: 1722

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 23 October 2002 have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

2. The substitute specification filed on 23 October 2002 has been entered.

3. The disclosure is objected to because of the following informalities:

In the substitute specification, on p. 4, line 25, "a" should be deleted, "ring" should be changed to --rings--, and "Each" should be changed to --The--; on p. 4, line 26, "member" should be changed to --members--, "include" should be changed to --includes--, "an" should be deleted, "ring" should be changed to --rings--, and "a" should be deleted; and on p. 4, line 27, "ring" should be changed to --rings--, because the cover 2 holds the stacked conical insert members and the top holding rings 17 and 18 and because the conical insert members include inside rings and outside rings, as understood from the original specification. Note that each conical insert member does NOT include an inside ring and a corresponding outside ring because

Art Unit: 1722

a conical insert member can be either an inside ring or an outside ring.

In the substitute specification, on p. 5, line 9, "becomes" should be changed to --, and the groove 6 becomes--, because the groove 6 becomes the slotted helical passages which are indicated by the three grooves 6, as understood from the original specification.

In the substitute specification, on p. 6, line 3, --68, 69-- should be inserted after "grooves" because reference characters 68, 69 are shown in the approved proposed drawing correction filed on 23 October 2002 but are not in the disclosure.

In the substitute specification, on p. 6, lines 4-5, "which meets with" should be changed to --and on-- because the middle rings 8, 10 have spiral grooves 68, 69 on the inner middle conical wall 89 and on the outer middle conical wall 111, as understood from the drawings.

In the substitute specification, on p. 6, line 9, --external and-- should be inserted after "The"; on p. 6, line 10, "13" should be --120--; and on p. 6, line 12, --and internal-- should be inserted after "external", and "120" should be changed to --13--, because external and internal channels 120 and 130 are in the same plane and because external and internal

Art Unit: 1722

channels 12 and 13 are in the same plane, as understood from the original specification (i.e., p. 3, lines 11 and 12).

Appropriate correction is required.

4. Claim 2 and 4 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 2 should be canceled because it is inherently redundant to claim 1 which already recites that the conical insert members have mating interior and exterior conical surfaces which define the spiral channels. As understood from the specification, such mating interior and exterior conical surfaces inherently define truncated conical channels.

Claim 4 should be canceled because it is redundant to claim 1 which already recites such subject matter.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point

Art Unit: 1722

out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is incorrect. The internal annular slits do not empty into the outer limiting wall. And the slits feed polymer melts. As understood from the original specification (i.e., p. 2), the central annular channel is defined by an inside wall and an outside wall, stacked mating internal conical insert members form therebetween truncated channels, spiral channels or grooves, and slits which empty into the inside wall, and stacked mating external conical insert members form therebetween truncated channels, spiral channels or grooves, and slits which empty into the outside wall. The examiner suggests the following: in claim 1, line 2, inserting --defined by an inside wall and an outside wall,-- after "channel"; line 3, changing "whose outer limiting wall" to --said inside and outside walls--, and inserting --and external-- after "internal"; line 4, inserting --, respectively-- after "slits", deleting "a", and changing "melt" to --melts--; line 8, changing "an" to --said--, and changing "wall" to --and outside walls--; line 9, inserting --respectively-- after "members"; and line 10, inserting --mating-- after "and".

Art Unit: 1722

Claim 2 is incorrect. Each insert member does NOT include an internal and an external shell. The examiner suggests deleting "of each insert member" in lines 2-3.

Claim 3 is incorrect. Only corresponding pairs, not all, of the internal and external slits lie in the same radial plane. The examiner suggests inserting --corresponding pairs of-- after "wherein" in line 2.

Claim 5 is incorrect. The internal shells cannot have mating exterior conical surfaces, and the external shells cannot have mating interior conical surfaces. The examiner suggests the following: in claim 5, line 4, changing "shells" to --internal and external shells respectively--, and inserting --mating-- after "and"; and line 5, changing "which form" to --and which respectively form internal and external--.

In claim 6, line 2, "annular" should be deleted; and line 3, "annular" should be deleted, because the channels are conical.

In claim 7, line 2, "annular" should be deleted because the channels are conical. Claim 7 is incorrect. Only corresponding pairs, not all, of the internal and external channels lie in the same radial plane. The examiner suggests inserting --corresponding pairs of-- after "wherein" in line 2.

Claim 8 is incorrect. The mating conical surfaces, not internal and external shells, define the two spiraled channels. The examiner suggests changing "internal and external shells of said conical insert members are defined by" to --mating conical surfaces define--.

Claim 10 is incorrect. The internal annular slits do not empty into the outer limiting wall. And the slits feed polymer melts from the feed channels into the inside and outside walls, not the inside channel. As understood from the original specification (i.e., p. 2), the central annular channel is defined by an inside wall an outside wall, stacked mating internal conical insert members form therebetween truncated channels, spiral channels or grooves, and internal slits which empty into the inside wall, and stacked mating external conical insert members form therebetween truncated channels, spiral channels or grooves, and external slits which empty into the outside wall. The examiner suggests the following: in claim 10, line 2, inserting --, defined by an inside wall and an outside wall,-- after "channel"; lines 2-3, changing "an outer limiting wall" to --into said inside and outside walls--; line 3, inserting --and external-- after "internal", inserting --, respectively-- after "slits", and deleting "a"; line 4, changing "melt" to --melts--; line 6, inserting --and external-- after



Art Unit: 1722

"internal"; line 8, changing "an" to --said--, and changing "channel" to --and outside walls, respectively--, inserting --internal and external-- after "said", inserting --respectively-- after "shells", and inserting --mating-- after "and".

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1722

9. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamda et al.(-776) in view of Planeta et al.(-972) and Sagar(-881).

Yamada et al.(-776: fig. 4) disclose an apparatus which includes a die head including a central annular channel, which is provided with an annular outlet die slit 7 and into whose outer limiting wall empty internal annular slits (see fig. 4), which annular slits feed polymer melts and form smaller diameter openings of truncated annular feed channels 5, formed between the internal and external shells of stacked, conical insert members (see stacked members in fig. 4, note that a portion of the members are conical), the annular slits feeding the polymer melts from the truncated channels 5 into an inside wall of the central annular channel, and the internal and external shells of the conical insert members having mating interior and exterior surfaces which define therebetween two counter rotating spiral (or oppositely spiraled) channels or grooves, whose depths taper off in a direction of each smaller diameter opening or toward the central annular channel (figs. 4 and 6; col. 2, line 43, to col. 3, line 11). The mating interior and exterior surfaces define the truncated channels which include the spiral channels and the annular slits and which communicate with the central annular channel to cause polymer melt in the truncated channels

Art Unit: 1722

to empty into the central annular channel to produce multilayered tubes. The internal and external shells of stacked insert members define the central annular channel having inner and outer walls. As shown in fig. 4, the internal and external slits lie in the same radial plane, the internal and external truncated channels slope in opposite directions at approximately the same angle to the central annular channel, the internal and external truncated channels communicate with the central annular channel in approximately the same radial plane, and the internal and external truncated channels are substantially concentrically spaced around the central annular channel. However, Yamamda et al.(-776) does not disclose the mating interior and exterior surfaces being conical surfaces which define the spiral channels.

Planeta et al.(-972) disclose a die head including internal shells of stacked, conical insert members 24, 44, 64 and 84 having mating interior conical surfaces which define truncated annular feed channels having spiral channels 32, 92.

Sagar(-881) discloses a die head including external shells of stacked, conical insert members 54, 56 and 58 having mating exterior conical surfaces which define truncated annular feed channels having spiral channels 60, 62.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the mating interior and exterior surfaces of the internal and external shells of stacked, conical insert members of the die head of Yamamda et al.(-776) to have conical surfaces which define the spiral channels because such modifications are well known in the art as disclosed respectively by Planeta et al.(-972) and Sagar(-881) above and would provide an art recognized alternative configuration for making internal and external shells of stacked, conical insert members of a die head.

10. Applicant's arguments with respect to the instant claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Leyson whose telephone number is (703) 308-2647. The examiner can normally be reached on M-F(8:30-6:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jan Silbaugh can be reached on (703) 308-3829. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Application/Control Number: 09/577,616

Page 12

Art Unit: 1722

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

*jl*

jl

December 10, 2002

*Jan H. Silbaugh*  
JAN H. SILBAUGH  
SUPERVISORY PATENT EXAMINER  
ART UNIT ~~17~~ 1722

12/11/02